the University in London which imposes such an entrance test for engineering, and unless and until the University is prepared to adapt its matriculation to suit the requirements of particular classes of students, which it is empowered to do under the new Statutes, and especially to engineering students, no very general or substantial improvement can be expected." Appended to the Report is an address given by Prof. Armstrong upon his retirement from the office of Dean of the College, his term having expired, and an address delivered by Sir Alexander R. Binnie at the opening of the current session. Both at the Central Technical College and at the Finsbury Technical College there was an increase in the number of students in the electrical departments, owing possibly to the development of electric traction in this country.

THE president of the Massachusetts Institute of Technology, in his annual report, records that there were in the Institute at the end of last year no less than 1277 students—the largest number yet reached. Of this number 193 were fourth-year students. The average age on entrance is eighteen years and ten months, which is a few months more than the average age at which students enter the Central Technical College, London. An increasing number of students remain for a fifth year or enter the Institute for post-graduate courses. There are thirteen courses extending over four years, and including such subjects as chemical engineering, sanitary engineering and electro-chemistry. In looking through the "Annual Catalogue" containing the outlines of the work done in these courses, we are reminded of the statement made in connection with the recent dismissals at the Royal Engineering College, Coopers Hill, that Indian engineers only need to know chemistry "to the extent required to enable the engineer to interpret results given by professional chemists." This is not the way in which engineers are trained at the best technical colleges in the United States, and if Lord George Hamilton and the Board of Visitors of Coopers Hill had seen the programmes of the engineering studies at the Massachusetts Institute they might have decided upon a more liberal action with regard to the subjects to be taught and the provision for teaching in a college where engineers are trained for the public service. The Faculty of the Massachusetts Institute has decided to discontinue the announcement of the degree of Doctor of Science, and to make the requirements for the degree of Doctor of Philosophy include "high attainments of a grade which qualifies the recipient as a scientific investigator and teacher." During 1900 the Institute received 100,000 dollars (less succession tax) under the will of the late Mr. R. C. Billings. The gift of 50,000 dollars by the late Mr. A. Lowell to constitute "The Teachers' Fund" has been increased to 100,000 by the executors, in conformity with his wishes. Other gifts received during the year amount to about 45,000 dollars. The total amount of the Institute property, both real and personal, was increased during the year by a net amount of 219,853 dollars, after deducting the sum of 8593 dollars, which is the excess of expenses over income.

SOCIETIES AND ACADEMIES.

LONDON.

Royal Society, May 23.—"A Comparative Crystallographical Study of the Double Selenates of the Series $R_2M(SeO_4)_2,6H_2O$—Salts in which M is Magnesium." By A. E. Tutton, B.Sc., F.R.S.

This memoir on the magnesium group of double selenates, in which R is represented by potassium, rubidium and cæsium, is analogous to that which was presented to the Society in March 1900 concerning the zinc group.

The conclusions derived from the study of the morphological and physical properties of the crystals of the three salts are generally similar to those arrived at from the study of the zinc group. There is observed an uniform progression with regard to every property in accordance with the order of progression of the atomic weights of the three alkali metals present. That is to say, the constants of the rubidium salt are generally intermediate between those of the potassium and cæsium salts.

The magnesium group has, however, proved particularly interesting, inasmuch as the progressive diminution of double refraction, according to the rule which has now been established for this series of double sulphates and selenates, leads in the case of cæsium magnesium selenate to such close approximation of the three refractive indices that the crystals of this salt exhibit exceptional optical phenomena. This includes dispersion of the optic axes in crossed axial planes at the ordinary temperature, the uniaxial figure being produced for wave-length 466 in the blue; and the formation of the uniaxial figure for every wave-length of light in turn as the temperature is raised, the attainment of uniaxiality for red lithium light occurring at the temperature of 94°. As the life-history of the salt terminates at 100°, owing to the presence of water of crystallisation, this substance exhibits the property of simulating uniaxial properties at some temperature within its own life-range for every wave-length of light, while still retaining the general characters of monoclinic symmetry, including slight dispersion of the median lines. In this respect it resembles to a truly remarkable extent the analogous sulphate, which the author has shown to possess like peculiarities, but it is even more striking than the sulphate, as the dispersion is much larger. It is interesting to observe that these optical properties of cæsium magnesium selenate could have been predicted, given the constants of the potassium salt and the rules of progression established for the double sulphate and for the zinc group of double selenates. For the double selenates resemble the double sulphates so closely that in general it may be said that their properties are precisely parallel, the constants and curves being merely moved on to a slight extent by the replacement of sulphur by selenium without disturbing their relationships.

Physical Society, May 31.—Prof. S. P. Thompson, president, in the chair.—A paper on the resistance of dielectrics and the effect of an alternating electromotive force on the insulating properties of india-rubber, by A. W. Ashton, was read by Prof Fleming. The author has obtained from his experiments formulæ for the charging and discharging currents of a condenser with rubber dielectric. The currents are exponential functions of the time. Curves for various potential differences have been plotted and were exhibited. These curves show that the insulating properties of rubber are increased by the application of high alternating electromotive forces.—Prof. Fleming then read a note by Mr. Ashton on the electrification of dielectrics by mechanical means. A sheet of pure Para rubber was placed in a condenser, the plates of which were connected to a quadrant electrometer. A two-pound weight was then dropped upon the condenser from a height of 3 inches. The electrometer received two impulses of opposite sign, one quickly following the other. The rubber was then stretched while in position and a potential difference of seven volts was shown between the plates, the top plate being negative. The condenser and electrometer were then discharged, the sheet reversed and the experiment repeated. The same effect was produced, the top plate again being negative. It appears, therefore, that polarisation of a dielectric being thus produced by mechanical energy, some part of the mechanical energy expended on the india-rubber during manufacture would remain in the dielectric as electric energy.—A model which imitates the behaviour of dielectrics, by Prof. Fleming and Mr. Ashton, was exhibited by Prof. Fleming. The behaviour of dielectrics with regard to their residual charge is analogous to that of wires subjected to mechanical stress. A simple twisted wire is not, however, able to imitate all dielectric effects, and the present paper describes a model which represents things more completely. Six pistons, separated by springs, are placed inside a vertical cylinder. The bottom piston fits fairly tightly in the cylinder. The second piston fits slacker than the first. The third piston has a small hole in it, and each succeeding piston has a greater area cut away, the top piston having just sufficient metal left to make the spring come to rest without vibration after being compressed. The cylinder is filled with machine oil and vaseline. To the top piston is attached a rod by means of which pressures can be exerted on the pistons for any length of time. This represents the charging of the condenser. The motion of the rod after releasing the weights represents the discharge of the condenser. This is registered graphically by a revolving drum, and the curves obtained are very similar to those from condensers with dielectrics. Prof. Ayrton said he would like to know in what respect the model shown was superior to a strained wire. He had noticed, about ten years ago, that alternating E.M.F.'s appeared to improve condensers. He was then working with comparatively small voltages, and he was interested to know that Mr. Ashton, working with high voltages, had established the improvement. The deflection obtained by stretching the india-rubber sheet might be due to changes in temperature, the dielectric having a high

thermoelectric power. Mr. Price was glad that the question as to what actually might be called the resistance of a dielectric had been raised. There are two theories of residual charge, one due to Maxwell and the other to Heaviside. The model exhibited represents Maxwell's theory. He considered that the electrometer experiment with the rubber dielectric favoured Heaviside's theory—that is, that the dielectric is composed of small charged bodies similar to the small magnets conceived to constitute a magnet. He expressed his interest in the fact that the top plate of the condenser was always negative. Mr. Blakesley suggested putting a small hole in the bottom piston of the model so that it might represent a condenser passing a small steady current. With regard to the stretched rubber experiment, he said it would be interesting to make observations with the plates of the condenser vertical. Mr. Campbell said he had made experiments and found that the change in capacity of the rubber condenser affects the voltage sufficiently to mask the real effect. Mr. Appleyard said it was important to have perfect contact between the dielectric and the metal plates. It was pointed out by a visitor engaged in the cable industry that manufacturers are aware that pressure affects the insulating properties of guttapercha. Rubber is a mixture, and different rubbers behave differently under the action of alternating potential differences. The chairman said that if the quantity of electricity taken in on charging was equal to the quantity given out on discharge, then there could be no dielectric hysteresis.

Royal Microscopical Society, May 15.—Dr. R. Braithwaite, vice-president, in the chair.—A paper by Mr. Fortescue W. Millett, being part xi. of his report on the recent Foraminifera of the Malay Archipelago, was taken as read.—Notice was given that on June 19 there would be a special meeting of the fellows for the purpose of making certain alterations in the by-laws.—The secretary announced that at the next meeting of the Society there would be a paper on the aperture theory of the microscope by Mr. J. W. Gordon. Mr. Beck asked any fellows who possessed Abbe's diffraction apparatus to lend them for use in illustrating the subject of Mr. Gordon's paper. Mr. Gordon would endeavour to show that the effects described by Prof. Abbe, and relied upon by him to prove his diffraction theory, were produced, not by the object on the stage, but by the diaphragm over the object glass; to demonstrate this satisfactorily Mr. Gordon would require the use of several sets of diffraction apparatus besides those at his present disposal.—The chairman drew attention to a large number of objects illustrating pond life which were exhibited (under about 35 microscopes) by members of the Quekett Microscopical Club and fellows of the Society.

Zoological Society, May 21.—Dr. W. T. Blanford, F.R.S., vice-president, in the chair.—Mr. Oldfield Thomas read a paper on the more notable mammals lately obtained by Sir Harry Johnston in the Uganda Protectorate. The following species were described as new:—*Colobus ruwenzorii*, allied to *C. palliatus*, but with longer hair and less white on the tail-tip; *Genetta victoriae*, a genet nearly as large as a civet, strongly banded, and without a dorsal crest; *Procavia marmota*, like *P. dorsalis*, but much smaller; and *Cephalophus johnstoni*, like *C. weynsi*, but darker throughout.—A communication was read from Mr. R. C. Punnett containing an account of the Nemerteans collected by Prof. D'Arcy W. Thompson and others in Behring Straits, Davis Strait and North Greenland. Of the seven species enumerated in the paper two had been previously named, whilst the remaining five were new to science and were described as *Amphiporus arcticus*, *A. paulinus*, *A. thompsoni*, *Drepanophorus borealis*, and *Cerebratulus greenlandicus*.—A communication was read from Dr. W. B. Benham containing an account of the viscera of a whale of the genus Cogia. He pointed out that in this whale there is but a single blowhole asymmetrically placed like that of Physeter, but crescentic in outline, with the concavity directed backwards. The alimentary canal contained a dark-coloured substance, which the author considered to be the "ink" from the cuttle-fishes upon which this whale undoubtedly feeds, as was evidenced by the beaks of these molluscs in the stomach. The stomach was constructed upon the plan of that of the large sperm-whale (Physeter), and the author agreed with others in regarding the first division of it as a paunch belonging really to the œsophagus, and comparable with that of the Ruminants.—Mr. G. A. Boulenger, F.R.S., described two new species of chameleon, obtained by Sir Harry Johnston, K.C.B., on Mount Ruwenzori, under the names *Chamaeleon xenorhinus* and *C. johnstoni*.—A paper was read, prepared by the late Dr. John Anderson, F.R.S., shortly before his death. It contained an account of the reptiles and batrachians obtained by Mr. A. Blaney Percival in Southern Arabia. Twenty-five species of reptiles and three species of batrachians, of which specimens were contained in the collection, were enumerated; two of the former were described as new under the names *Bunopus spatalura* and *Agamodon arabicum*.—Mr. Boulenger described a new fish under the name *Gobius percivali*, specimens of which had been obtained by Mr. A. Blayney Percival in Southern Arabia.

Geological Society, May 22.—Mr. J. J. H. Teall, V.P.R.S., president, in the chair.—On the skull of a chiru-like antelope from the ossiferous deposits of Hundes (Tibet), by Richard Lydekker. Twenty years ago the author proposed the provisional name of *Pantholops hundesiensis* for an extinct species of antelope typified by an imperfect skull figured in Royle's "Botany &c. of the Himalaya Mountains," pl. iii. fig. 1. The specimen is in the Museum of the Geological Society, and an examination has confirmed the original determination.—On the occurrence of silurian (?) rocks in Forfarshire and Kincardineshire along the eastern border of the Highlands, by George Barrow (Communicated by permission of the Director of H.M. Geological Survey). These rocks occur in three lenticular strips between the schistose rocks of the Highlands and the boundary-fault next the Old Red Sandstone. The largest is about twenty miles long, and extends almost from Cortachy to beyond the Clattering Bridge; it is about three-quarters of a mile wide at its widest. The rocks are divided into two groups, the Jasper and Green-Rock Series below and the younger Margie Series above. A section along the North Esk River is described in detail, and other sections referred to it. The lower division consists of fine-grained sandstones (bearing microcline), grey slaty shales, jaspers (sometimes containing circular bodies resembling radiolaria), and a variable series of basic igneous rocks ("green rock") of coarse texture and probably intrusive origin. The upper division consists of conglomerates, pebbly grits, dark and white shales, pebbly limestone and grey shale. The age of the series cannot be definitely ascertained, but the lower division is compared with the Arenig cherts, &c., of the Southern Uplands, while the Margie Series is newer than this, but older than the Old Red Sandstone.—On the crush-conglomerates of Argyllshire, by J. B. Hill, R.N. (Communicated by permission of the Director of H.M. Geological Survey.) While the sedimentary origin of the Highland Boulder-bed is proved by the foreign boulders contained in it, there occur in the Loch Awe region certain conglomerates, often along definite horizons, which may have been confused with it, but which the author is able to prove have originated by crushing. The sedimentary rocks of the area include all the members of the Loch Awe series, consisting of grits, slates and limestones, the latter being mostly gritty in character. Associated with these is an enormous amount of igneous material of Dalradian age, ranging from intermediate to basic in composition, together with porphyrite-dykes probably of Old Red Sandstone age, and a plexus of Tertiary dykes.

Linnean Society, May 2.—Prof. S. H. Vines, F.R.S., president, in the chair.—Prof. Charles Stewart, F.R.S., exhibited and made remarks on the egg and oviducal gland of *Scyllium catulus*, and on the nature of the egg-shell of Sphenodon.—Mr. W. P. Pycraft read a paper on the palate of the Neognathæ, in which he traced the derivation of the Neognathine from the more primitive Struthious or Palæognathine palate.—Mr. George Massee communicated a second instalment of his redescriptions of Berkeley's types of fungi, and explained the circumstances in which such redescriptions under higher powers of the microscope had become desirable.

May 24.—Anniversary meeting.—Prof. S. H. Vines, F.R.S., president, in the chair.

Anthropological Institute, May 28.—Prof. A. C. Haddon, F.R.S., in the chair.—Dr. Chervin referred to the proposed bibliography of anthropology and to the exchange of abstracts of *Proceedings*; he further suggested the possibility of a more frequent interchange of visits, offering, on behalf of his Society, to act as cicerone if the Institute would undertake an anthropological excursion in France.—Mr. A. Henry exhibited (1) an ancestral tablet, (2) a MS. of the Lolos of Yunnan.—Mr. J Gray presented a communication on the measurements of crania from the Fly River, New Guinea.—Mr. C. G. Seligmann pre-

sented anthropometrical craniological notes on the Eastern Papuans.—Dr. A. C. Haddon discussed the present state of our knowledge of the ethnology of British New Guinea.

CAMBRIDGE.

Philosophical Society, May 20.—Prof. Macalister, president, in the chair.—On the rate of growth of certain corals, by Mr. J. Stanley Gardiner. The author put in a plea for more precise observations on the subject, showing in discussing his specimens the various conditions of life, which he considered necessary to record. It was suggested that the volumes of specimens should be calculated, and that if possible the thickness of each skeleton, imagined as a flat plate covering the same horizontal area as its living colony, should form the basis for comparison. By the latter method the specimens showed, in a growth of less than 1030 days from the larvæ, various thicknesses between 10 and 25 mm.—On the breeding habits of *Xenopus laevis Daud*, by Mr. E. J. Bles.—On the recovery of foliage leaves from surgical injuries, by Mr. F. F. Blackman and Miss G. L. C. Matthaei. It has been found that if definite areas of these leaves be killed by heat or by physical means, the remaining sound tissues divide actively and form an absciss-layer which surrounds the dead cells and cuts out the area so that it drops away from the leaf. Specimens were exhibited showing the stages of this process, which takes place with such precision that leaves may thus be shaped to any desired form.—On a new species of *Bothriocephalus*, by Mr. A. E. Shipley.—On a class of matrices of infinite order and on the existence of matricial functions on a Riemann surface, by Dr. A. C. Dixon.—On liquid motion from a single source, by the Rev. H. J. Sharpe.

EDINBURGH.

Royal Society, May 20.—Prof. Geikie in the chair.—Mr. Alfred Harker communicated a paper on ice-erosion in the Cuillin Hills, Skye, in which evidence was accumulated to show that this region had never been over-ridden by foreign ice, but had supported during the maximum glaciation a local ice-cap. The general radial outflow followed with few exceptions the principal valleys, but on reaching the lower ground was sharply diverted toward the west by the pressure of the great Scottish ice-sheet. The chief part of the paper was devoted to an analysis of the surface relief of the Cuillins, the more striking elements of which were the result of glacial erosion, as distinguished from aqueous erosion. Among these were the general absence of any relation between detailed topography and geological structure; the unbroken extent of the main ridge with its steep flanks and cuspate cross-section, and the tricuspate ground-plan of its principal peaks; the curiously asymmetric form in cross-section of the branch ridges, with the steeper face always toward the north; the straight steep-sided valleys with U-shaped cross-section and abruptly stepped longitudinal profile; and other well-marked characteristics. The drift accumulations were also discussed, stress being laid on the action of ice not merely in grinding down a rock-surface but in tearing away fragments, especially of well-jointed rocks. The maximum glaciation in central Skye was succeeded by a period of valley glaciers; and at the same time the withdrawal of the Scottish ice-sheet allowed an unimpeded out-flow of the ice-drainage from the Skye mountains. At this stage the exposed summit ridges of the Cuillins suffered greatly from frost-action, the detached blocks being in part carried away on the glaciers, in part accumulating in great taluses wherever the head of a valley had become vacated by the dwindling ice.

PARIS.

Academy of Sciences, May 28.—M. Fouqué in the chair.—On the parallax of the sun, by M. Bouquet de la Grye.—The addition of hydrogen to various hydrocarbons, by MM. Paul Sabatier and J. B. Senderens. It has been shown in a previous paper that benzene and toluene in contact with hydrogen and reduced nickel readily form the hexahydro-addition products. It is now shown that this reaction is a general one, similar addition compounds being obtained from a great number of aromatic hydrocarbons. In the case of substituted benzenes in which the side chain exceeds a certain length, a secondary decomposition takes place. Thus ethyl-benzene gives not only the ethyl-cyclohexane, but also methyl-cyclohexane and a small quantity of methane. Propyl-benzene in the same way gives a little methyl-cyclohexane and ethyl-cyclohexane. The yields of the various hydrocarbons are very good, and the physical constants of several of them now prepared for the first time are given.—Observations of the comet A(1901) made at the Observatory of Algiers with the 31·8 cm. equatorial, by MM. Rambaud and Sy. The comet appears in the form of a nebula with a nucleus of a lustre comparable with a star of the 8th magnitude.—On the spectrum of the solar corona photographed at Elche (Spain) during the total eclipse of the sun of May 28, 1900, by M. A. de la Baume-Pluvinel. Five photographs of the corona and its spectrum accompany the paper.—The wave-length of some iron rays, by MM. Fabry and Perot. By the application of the interference method described by the authors in previous papers the wave-lengths of fifteen of the chief iron lines have been determined with an accuracy of six significant figures.—On the density of alloys, by M. E. van Aubel. The aluminium-antimony alloy containing 81 per cent. of aluminium is produced with a large increase of volume, 7 c.c. of aluminium and 12 c.c. of antimony giving 23·7 c.c. of the alloy AlSb.—On a very sensitive balance which is capable of acting either as a galvanometer, electrodynamometer or an absolute electrometer, by M. V. Cremieu. Two small magnets are carried on a small torsion balance composed of two silk fibres. These wires are sucked into bobbins carrying a current, the arrangement forming a sensitive astatic and dead beat galvanometer.—On the reduction of silver chloride by hydrogen, by M. Jouniaux. The interaction of hydrogen and silver chloride at various temperatures above 500° C. is reversible. The experimental results are applied to calculate the difference between the heats of formation of hydrogen and silver chlorides.—Observations on the preceding note, by M. Berthelot.—The action of mercuric oxide upon aqueous solutions of metallic salts, by M. A. Mailhe.

NEW SOUTH WALES.

Linnean Society, March 27.—Mr. J. H. Maiden, president, in the chair.—Description of a new species of Acacia, by J. H. Maiden. The plant described is an erect shrub of several feet from the highest part of the Blue Mountains.—Note on the Subgenus salinator of Hedley, by Edgar A. Smith.—Studies on Australian mollusca, part iv., by C. Hedley. Geological notes on Kosciusko, by Prof. T. W. Edgworth David, F.R.S, Richard Helms and E. F. Pittman. This paper deals with the subject of recent discoveries by the authors in company with Mr. F. B. Guthrie, of ancient moraines, erratics, and extensive rock surfaces grooved by glacier ice on the Kosciusko plateau. Some of the best preserved evidences noticed were in the Lake Albina Valley and in the valley of Lake Merewether (Blue Lake). At the latter locality there is a magnificent and well preserved moraine 400 feet above the surface of the lake, and containing ice-scratched blocks in enormous numbers. A very fine ice-grooved pavement of granite was observed at a point about 300 yards west of the southern end of Lake Albina. There is certain evidence that the glaciers came down, in comparatively recent geological time, to 5800 feet above the sea and probably to 5500 feet at least, Mount Kosciusko proper being about 7328 feet high. It is also clear that the ice in some of these glaciers was at least 400 feet thick. It is quite possible that at a still earlier period the whole plateau down to a level of about 5000 feet was buried under an ice-sheet. The exact downward limit has not yet been ascertained. The comparatively recent nature of the glaciation is shown by the fact that since the ice disappeared a depth of only about 10 feet of loose moraine and a further depth of 10 feet of soft slate have been eroded in the beds of the creeks which form the sources of the Snowy River. The authors consider that this evidence, taken in conjunction with that recently adduced in South America, Kerguelen, New Zealand and Tasmania, suggests a synchronism of glaciations of the northern and southern hemispheres, due to some such cosmic cause as that suggested by Dr. Arrhenius, viz., a slight temporary diminution of carbon dioxide in the earth's atmosphere.

April 24.—Mr. J. H. Maiden, president, in the chair.—Notes from the Botanic Gardens, Part 7, by J. H. Maiden and E. Betche. A number of new species and varieties were described.—Notes on the caves of Fiji, with especial reference to Lau, by B. Sawyer and E. C. Andrews. During their travels in the Fijian Archipelago the authors observed two types of caves—the excavated and the enclosed. Magnificent examples of caves excavated by percolation and subterranean streams occur in Viti Levu. In the Lau group appear the enclosed caves—vacant spaces walled and roofed in by coral growth. In their early stages these are seen in the living reef

as precipitous chasms.—Observations on the eucalypts of New South Wales, Part 8, by Henry Deane and J. H. Maiden.—Bacteria and the disintegration of cement, by R. Greig Smith. Stutzer and Hartleb considered that the disintegration of the cement work of water reservoirs might be caused by the action of the nitrifying organisms. The author has investigated a case where the cement work of a water canal was disintegrating. Nitrifying organisms were found in the surface mud, but not deeper into the cement where disintegration was in active progress. The nitrifying bacteria appear when disintegration is complete. Other bacteria were separated by selective methods. One of these, *Bact. croceum*, can grow in bouillon with 5 per cent. sodium carbonate, but neither it nor the others separated had any action upon experimental cement blocks. Since the disintegrated cement contained alkali soluble in water equal to 1·4 per cent. lime, the disintegration is probably purely physical.—Notes on *Vibrio denitrificans*, Sewerin, by R. Greig Smith. This is not a vibrion, but an organism morphologically similar to *Rhizobium leguminosarum*. In media containing potassium phosphate, branching and irregular forms are found in young cultures. It appears to be a budding rod, and the variety of forms of the organism is caused by the mother and daughter cells being contained in a branching capsule.

CAPE TOWN.

South African Philosophical Society, April 24.—Mr. L. Péringuey, president, in the chair.—Mr. Garwood Alston showed three photographs of stones standing erect about six miles south of Port Nolloth, near which Mr. R. Colson found certain kitchen-middens, from which a skull and several native pots and grinding stones were obtained. The stones form enclosures of four feet by two, running north and south. Two of the enclosures were dug into, but yielded nothing. The underlying indurated sand seemed to be quite undisturbed. Mr. Alston emphasised the absence of evidence as to the meaning of the enclosures, and said that the small size was against the view that old burial places are indicated.—Prof. J. T. Morrison communicated a paper on some pressure and temperature results for the Great Plateau of South Africa, by Mr. J. R. Sutton. The author discusses the annual run of daily maximum and minimum temperatures, and of daily barometric pressures at Kimberley and Durban, as deduced from observations made during the ten years 1888–97, the pressures at Kimberley being, however, available only for 1890–97. The object was to discover the outstanding features of plateau meteorology. The results suggest to the author that "we might adopt the working theory (not forgetting how easy it is to theorise when facts are few), which, however, is rather a geometrical conception than a mechanical possibility, that there is a certain temperature factor—if we may so call it—travelling round the earth from west to east, while a pressure factor is going the opposite way."

DIARY OF SOCIETIES.

THURSDAY, JUNE 6.

ROYAL SOCIETY, at 4.—Election of Fellows.—At 4.30.—On the Electric Response of Inorganic Substances, Preliminary Notice: Prof. J. C. Bose.—On Skin-Currents. Part I. The Frog's Skin: Dr. Waller, F.R.S.—Vibrations of Rifle Barrels: A. Mallock.—The Measurement of Magnetic Hysteresis: G. F. C. Searle and T. G. Bedford.—A Conjugating Yeast: B. T. P. Barker.—Papers to be read *in title only*: Thermal Adjustment and Respiratory Exchange in Monotremes and Marsupials: a Study in the Development of Homo-thermism: Prof. C. J. Martin.—On the Elastic Equilibrium of Circular Cylinders under Certain Practical Systems of Load: L. N. G. Filon.—The Measurement of Ionic Velocities in Aqueous Solution, and the Existence of Complex Ions: B. D. Steele.

ROYAL INSTITUTION, at 3.—The Chemistry of Carbon: Prof. J. Dewar, F.R.S.

LINNEAN SOCIETY, at 8.—On the Necessity for a Provisional Nomenclature for those Forms of Life which cannot be at once arranged in a Natural System (Adjourned Discussion): H. M. Bernard.

CHEMICAL SOCIETY, at 8.—A Laboratory Method for the Preparation of Ethylene: G. S. Newth.—Oroxylin: W. A. H. Naylor and C. S. Dyer.—Some Relations between Physical Constants and Constitution in Benzenoid Amines, II.: P. Gordon and L. Limpach.—The Constitution of the Acids obtained from α-Dibromocamphor: A. Lapworth and W. H. Lenton.—The Decomposition of Chlorates. IV. The Supposed Mechanical Facilitation of the Decomposition of Potassium Chlorate: W. H. Sodeau.—Condensation of Phenols with Esters of the Acetylene Series. V. Homologues of Benzo-γ-pyrone: S. Ruhemann.—On the Action of Sodium Methoxide and its Homologues on Benzophenone Chloride and Benzal Chloride: J. E. Mackenzie.—Preliminary Note on Hydrides of Boron: W. Ramsay and H. S. Hatfield.—Gum Tragacanth: C. O'Sullivan.

RÖNTGEN SOCIETY, at 8.30.—X-Ray Diagnosis of Aneurism: Dr. Hugh Walsham.

FRIDAY, JUNE 7.

ROYAL INSTITUTION, at 9.—Mimetic Insects: Prof. Raphael Meldola, F.R.S.

GEOLOGISTS' ASSOCIATION, at 8.—The Geysers of the Yellowstone: John Parkinson.

SATURDAY, JUNE 8.

ROYAL INSTITUTION, at 3.—The Biological Characters of Epiphytic Plants: Prof. J. B. Farmer, F.R.S.

MONDAY, JUNE 10.

ROYAL GEOGRAPHICAL SOCIETY, at 8.30.—Travels in Search of Waves in 1900: Vaughan Cornish.

VICTORIA INSTITUTE, at 4.30.—Annual Meeting.—Address by Sir Robert Ball, F.R.S.

TUESDAY, JUNE 11.

ROYAL PHOTOGRAPHIC SOCIETY, at 8.—Notes from Five Years' Work with X-Rays: W. Webster.

THURSDAY, JUNE 13.

ROYAL SOCIETY, at 4.30.—Bakerian Lecture: Prof. James Dewar, F.R.S.—The Nadir of Temperature and Allied Problems. (1) Physical Properties of Liquid and Solid Hydrogen: (2) Separation of Free Hydrogen and other Gases from Air; (3) Electric Resistance Thermometry at the Boiling Point of Hydrogen; (4) Experiments on the Liquefaction of Helium at the Melting Point of Hydrogen; (5) Pyro-Electricity, Phosphorescence, &c.

MATHEMATICAL SOCIETY, at 5.30.—Remarks on the Quartic Curve $2\alpha^3\beta+m\beta^3\gamma+n\gamma^3\alpha=0$: A. B. Basset, F.R.S.—The Theory of Cauchy's Principal Values, II.: G. H. Hardy.—The Rational Solutions of the Equation $u^3+v^3+w^3+p^3=0$: Prof. Steggall.

CONTENTS.